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ABSTRACT

The effectiveness of visual aids in nonformal education depends on their relevance to the audience with which they are used, and this booklet provides a discussion of various factors for field workers to consider in designing and using simple visual aids in developing countries. Four specific types of visual aids are discussed in some detail--found objects, charts, pictures, and models--and suggestions are offered for producing these four prototypes. Uses for such inexpensive materials as newsprint, masking tape, and felt pens are indicated, and four books providing additional information on the design and production of visual aids are listed. (BBM)

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VISUAL AIDS FOR NONFORMAL EDUCATION

A field guide to the production and use of inexpensive visual aids in nonformal education

JANE KATHRYN VELLA

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PREFACE

From my own experience as a field worker in nonformal education in Tanzania and Kenya, I know how great the need is for simple, inexpensive visual aids that will enhance and clarify a lesson. This little book aims at meeting that need by providing both models and modes of operation for field workers to produce and use such inexpensive visual aids.

It strikes me, every time I return to America, that those students who have access to television, radio, magazines and periodicals, libraries and museums, are also those with the most elaborate visual aids in their classrooms: videotapes, films, slide projectors, filmstrips. Our friends in rural situations in the Third World, without ready access to media resources, often work in classrooms or learning situations where a rough blackboard is the only instrument for visual reinforcement. Once again, the neediest in fact are the neediest in resources. How can educators address this discrepancy?

This booklet is part of an energetic response to such issues. It aims to enable field workers in nonformal education situations to use available materials in creative and innovative ways to produce relevant and meaningful visual aids.

CHAPTER I

THE NEED FOR INEXPENSIVE VISUALS

Field workers in nonformal education, whether in rural or urban situations, often find themselves challenged by conditions unheard of in traditional classroom education. The location of the class is often remote, far from any source of educational supply; the participants are often people with little or no formal educational background, whose deprived learning situation leads to a lack of self-confidence; and the program budget is almost always slim, with personnel and material resources overextended.

Even if the budget is ample, what is there to purchase in the way of relevant learning materials? How can such materials be shipped on time to the local teachers and students? Even if materials are available and are sent on time to nonformal education classes, will they be useful and relevant to a particular and unique group of people?

"Anything is better than nothing" some community leaders and teachers maintain, aware that adults need the corroboration of visual aids in their learning process. However, many field workers feel dissatisfied when using pictorial and visual material that is culturally irrelevant, or offensive, or too sophisticated to be comprehended easily by students. Field workers in the various disciplines ask continually for visual aids that are accessible to remote situations, appropriate to a particular group of people with very particular needs, and inexpensive both to produce and to use.

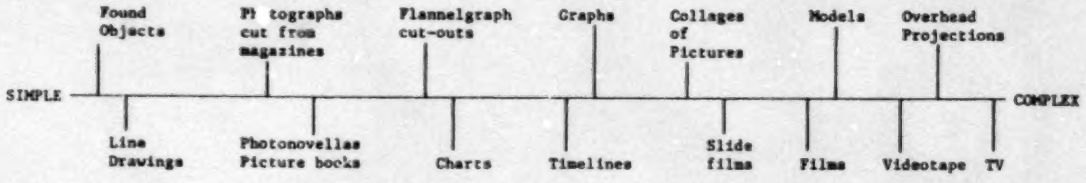
Who are these field workers, and what is their involvement with the

community? At work around the world are extension officers, community organizers, educators of adults working in rural and urban situations. The following chart indicates some of the major nonformal education content areas in which visuals have proven useful:

HEALTH	prenatal	child care	immunization programs
NUTRITION	basic foods	food preparation	homemaking skills
VOCATIONAL TRAINING	carpentry	masonry	automechanics
COOPERATIVE BUSINESS TRAINING	bookkeeping	coop management	sales and marketing
LITERACY	reading	writing	numeracy
LEADERSHIP TRAINING	youth groups	personal awareness	group work skills
AGRICULTURE	basic farming skills	use of fertilizer	seed selection
AWARENESS	women's groups	minority groups	legal rights
MORAL TRAINING	sex education	church groups	family planning

This taxonomy of nonformal education situations is hardly comprehensive. However, it does indicate the diversity of content areas for which visual material must be designed.

The appropriateness and usefulness of a particular visual aid depends upon the learning situation, the students and the subject matter. In some urban situations, for example, a group of women, gathering to discuss their rights as consumers, might use a film or a videotape. An agricultural officer doing extension work could find a slide loop or slide show very effective in introducing a new technique to rural adults. If we move from the simple to the more complex, we can describe the range of visual aids available to the nonformal educator on this continuum:



Not all of these visual aids will be available or appropriate to every nonformal learning situation. Since one of the common bonds that unites field workers in nonformal education throughout the world is a commitment to people in their own environment and a respect, therefore, for the autonomy of a community, teaching materials that we use must be as appropriate as possible, suitable to the culture and to the group. Very few commercially available visual materials fit these criteria. Furthermore, budgets of nonformal education programs and the time constraints involved in ordering materials from a distant urban center often preclude use of such materials.

Yet the need for visual aids remains. The Chinese proverb has it:

I heard and I forgot
I saw and I remembered
I did and I learned . . .

The use of visual aids not only holds the attention of an adult audience, but

also helps them to recall and to internalize the lesson. What can we do to make these available to our classes? We must make them ourselves.

The argument for building up a repertoire of visual aids that can be used in adult nonformal education is corroborated by recent research on adult learning. In The Modern Practice of Adult Education (1975), Malcolm Knowles has compiled some fundamental facts on adult learning. The research he gathered holds that adults learn best:

1. when they feel themselves respected in the environment;
2. when the new learning exploits their life experience and builds upon it;
3. when they see the things being learned as immediately useful; and finally,
4. when there is some visual or practical component to the lesson.

Statistics indicate further that we recall twenty percent of what we hear, forty percent of what we hear and see and eighty percent of what we can discover for ourselves. That simple statistical pattern lends an urgency to the need for relevant and significant visual aids.

... When They Feel Themselves Respected

The design and use of appropriate visuals for a particular group of learners is a very important way of showing respect. What other methods of using visuals indicate respect?

Adult learners appreciate being called by name in a manner appropriate to their position in the society. The use of name tags, posting a wall chart with the names of participants in a workshop/seminar/class, standing name cards at people's places around a table at a meeting, can all be useful means of helping

a group to become acquainted, and to share that respectful manner of addressing one another through the learning time. For example, if you are the facilitator of a village meeting, and you know who will be attending, you can show respect for each person by handing out individual name cards as participants arrive. A small, folded card with the individual's name or both sides, placed before him or her at a meeting, can mean much. With this small investment of time and thought, a facilitator can go far toward giving participants a sense of their own importance to the meeting.

Slide shows, films and videotapes must be previewed and edited before they are used with a group of adults. This is both to check for appropriateness and to ascertain that there is nothing in the prepared visual that will offend the group. If possible, a participant should do this previewing with the facilitator, and make the decision on the use of the visual. This field guide will continually stress the need to verify the validity of images used in visual aids. Such respect for local conventions, symbols, customs and culture is a vital element of successful nonformal education.

... <u>When Learning Exploits Life Experience</u>

How can visual aids exploit the life experience of participants? Field workers in nonformal education know that adults come to them with years of life experience which can be tapped, considered, built upon, analyzed and enriched by the learning event.

The most important visual aids will be those with which adults can identify, those which represent to them their own lives and environment. Educators who design and create visual aids must know the local context. This is not merely a pedagogical principle, but a political and philosophical one as well.

> Teaching aids must reflect national ideology and must be in line with local society and environment.
>
> D.V. Owiredu
> Kenya Institute of Education (1970)

Respect for the experience in the lives of adults can be manifested by the processes used in adult learning events as well as by the content and materials used. Adults crowded into school desks built for children or teenagers, seated in rows reminiscent of their childhood, lectured at and questioned like schoolchildren, will not persevere in attending adult classes. A process of adult teaching/learning which respects the life experience of the participants will be decentralized, informal, comfortable and evocative of maximum participation. We still need a new precedent for adult learning, built upon respect for the life experience of everyone involved.

... When They See Immediate Usefulness

In addition to respect and a concern for their life experience adult participants want more or less immediate usefulness in their learning experience. When adults, for example, come to extension classes in agriculture, they want to learn something definite that they can take home and apply. Here is where wall charts, reproduced on small handouts, are very effective. Pictures and line drawings, used to evoke discussion, can be handed out to class members for them to take home where they can continue the discussion with family and friends.

This principle of immediacy is a substantial argument for needs assessment and participant goal setting in nonformal education. One of the major impediments in adult education is the drop-off of attendance: if people do not get what is useful to them, they simply stay home. Extension classes with

minimal or declining attendance are a waste of valuable resources. Field workers must learn how to discover local needs, invite participant collaboration in designing the program, and in general, bring in new learning in terms of the people who are doing the learning.

... When There is Some Visual or Practical Component

The fact that people recall more when it is available to them visually, and most when they do the task themselves, is a challenge to field workers not only to design and create visual aids, but to design and create participative, collaborative programs. Collaboration with participants in designing wall charts, in choosing found objects for use and analysis, and in creating pictures for discussion can be highly effective ways of making certain that visuals have immediate usefulness.

If appropriate visual material can be made by the participants in a learning event for their own use, and as a means of sharing what they learn with neighbors, an optimal learning/teaching situation can evolve. The word "appropriate" here is very important. Modes of perception are deeply influenced by cultural norms and experience. Research has shown that the eye and the brain need long and specific training to see in an anticipated way. The novice biologist, for example, spends hours looking into a microscope before the tiny, wriggling bits of stuff on the glass begin to take meaningful shape. The perception of a single picture can be very different to different people. Awareness of perceptual variants will make the field worker cautious about the kinds of visual aids selected and used.

Visual and perceptual variants work both ways: once while visiting friends in a Tanzanian village I admired some field flowers growing near the house.

My friend showed me the plant, which she described as very sweet and edible, a favorite with the children. That evening I came back to the house with an armful of what I thought to be the delicious plant and presented them to my hostess as a gift for her children. She smiled and explained that this was another plant, very different, inedible and in fact, toxic! She said, consolingly, "Don't mind, it is hard for strangers to see the difference!"

To sum up, whatever visual aids are used in nonformal education will be more effective if the facilitator aims at showing respect for the learners both by the choice of visuals and by the ways they are used. Visuals can meet the learners' needs to relate new content to their experience, show them how learning can be immediately useful and help them to internalize what has been learned. In the next section four different visuals will be considered as examples or prototypes of inexpensive visual aids which can be designed, produced and used by local facilitators.

CHAPTER II

FOUR SPECIFIC VISUAL AIDS

Found Objects

The things around us are often suitable for use in a teaching/learning event. Found objects are the familiar things people use daily, hold in their pockets or store on their shelves at home. They are immediately available for use in teaching, and there is no expense involved in using them.

How can these found objects be used in adult learning? If, for example, a group of village women are meeting the local nurse once a week for nutrition classes, each could be invited to bring to class one item of food from home. In anticipation of their arrival, the nurse would prepare a large table with sections marked:

MORNING NOON EVENING

As the women arrived, the nurse would ask them to place their food on the table in the appropriate section. When the table was full of food, the women could begin to see the pattern of their nutritional habits emerge. With this visual aid, the nurse could then analyze the nutritional components, show what was lacking and suggest what could be added to produce a balanced diet.

This kind of teaching is full of respect for the group: their own life style can be analyzed and discussed by themselves. The women can in this way discover new ideas about their own reality, in terms they understand. They can be strengthened in their present good habits by having them noted and judged

useful by the nurse facilitator. A question from the nurse, "What else is needed" can provide the opportunity for all to develop their knowledge of nutrition on their own terms, and can enable the group to draw conclusions and make decisions that will immediately affect their families. Is such an experience of discovery not much more effective than a lecture on nutrition?

Found objects can be used in many content areas: in a carpentry class people can bring in pieces of furniture that need repair, in a sewing class participants can be invited to bring along one garment that needs work, to a class on consumer rights people can be asked to bring one item that symbolizes their fear or concern: a loaf of bread, a bottle of milk, or something else.

Found objects can also be used in an effort to acquaint a group of strangers with one another. Participants can be asked to take from their pockets or purses one item that means a great deal to them, show it to the group and explain why it is significant. A variation on this is for the facilitator to prepare a table of common items beforehand: a key, a cooking spoon, a book, a hammer, a fish hook, a plant. People then can be asked to choose the item with which they identify and to explain why they chose it. The idea is to use the found objects to evoke a significant level of sharing among a group of strangers.

Another variation on that is to invite each person coming to a village workshop or seminar to bring one item from home that he or she is proud of. If someone cannot bring along a particular thing, a description of the item will suffice. One woman might bring her knitting needles, another fruit from her orchard, a man might bring his fishing tackle, another a carpentry tool. In the introductions each person can give his or her reason for bringing this item and explain its meaning. This tells us something more about each person,

permits us to identify with him or her in new ways, and establishes the kind of bond on which to build a learning event.

One of the most interesting uses I experienced of found objects was in a village where I was facilitating a workshop in family planning and leadership. It soon became clear to me that a village problem was the lack of regard the village men had for the women.

I heard it said over and over again: "The women do not understand." "The women are holding us back." "They are after all, only women." This was repeated many times in the course of the first two days of the village workshop and I saw that the women were indeed cowed by the condescending attitudes of their menfolk. I searched for an educational design both to restore the women's confidence in themselves and to show the men that the women were capable.

I called all the women together and told them this very sad story. This was done in front of the men, who were sitting around the outside of the group of women. The story ran thus:

> A child has fallen into a newly dug pit latrine. He is only two years old and is wailing in fear. The pit is very deep, has never been used. There is no apparent way to get him out. What are we to do?

The women's first response was: "Call the men." "No," I said, "no men are in the village today. They have all gone to the football game in town." "Then let us go to town and get them!" "That will take too long." "Get a ladder!" "There is not one long enough in the village." "Go to the village nearby and borrow one!" "That will take too long." "Get a rope!" "There is none in the village long enough."

SILENCE.

"Please hurry," said I, "the poor child will die of fear! What have we

got to use right here in this village?"

MORE SILENCE.

A small voice ventured: "We could use our kangas . . ."

"Our kangas!" "Yes, of course!"

And quickly all the thirty women whipped off the large cotton square of cloth that each wore over her dress. These kangas were hastily tied together into a great long rope, which we with great bustle and laughter and shouting threw as a lifeline to the "child" who was waiting patiently outside. What a cry of triumph and joy went up as we "pulled" him into the room!

When each woman had regained her kanga and we sat together, we processed the event: What happened there? Why did it happen? The women were very proud of their resourcefulness.

I asked who had thought of using the kangas. They answered "Rosa thought of it. But her one kanga would not have done the job!"

Next day, a very old man who was participating in the workshop said to me, "Last night, I could not sleep. I kept thinking of those kangas and what those women of ours were able to do . . ."

This experience indicates the vast potential of using found objects in nonformal education. They are accessible, relevant and inexpensive visual aids!

Charts

A chart is both a very effective mode for presenting new material and a way of summing up what has been taught. The uses of charts are virtually infinite: to present material, to sum up major points, to show relationships through maps or time lines, to indicate the steps in a process.

When new material is being taught, a simple list of major points, charted for all to see, is very useful. The advantage of a chart written on newsprint over a similar summary written on a blackboard is that the chart is not erased, and when it is duplicated in miniature for all students to have copies, it can be a very useful instrument.

For example, when working with a group of urban youth who are searching for jobs, the facilitator may chart the job resource organizations in the city, and have that on the wall during the discussion of those resources. Then each young person can receive the same chart after the discussion.

JOB RESOURCE ORGANIZATIONS

Name	Address	Telephone Number
CETA	City Hall King Street	549-5670
CYO	Edward McBride 28 Delancey Street	879-6969
DELTA	Joseph Arrow 800 Grand Avenue	980-7563
YMCA	Andrew Descry Job Coordinator 879 Front Street	549-7530

Printing on a chart must be large and clear. Blunt tipped, bright colored felt pens offer a wide letter for distant viewing. Charts, like other visuals, should be checked with a peer of the participants: Is it clear? Is it legible? Will everyone understand what it is trying to say?

At the beginning of a workshop or a seminar the agenda may be charted and displayed for editing and for approval by the participants. This is an

effective way of inviting people to take part in planning. Questions such as these can be used when presenting the proposed agenda:

> "Here is the proposed agenda for our workshop. Is it possible for all to follow this timing? What changes would you propose?

In a nonformal education setting when participants are involved in a learning task, it is useful to describe that task on a chart and post that for reinforcement. For example, when doing a role play in order to practice communications skills, once the task has been described orally, this chart can be posted both to clarify the task and to reinforce the verbal directions:

ROLE PLAY COMMUNICATIONS

A HAS A PROBLEM

B IS A LISTENER/FRIEND

After three minutes reverse roles.

Another example: the task is for the group to meet in pairs and introduce themselves by reference to three questions pertinent to the workshop/seminar/lesson. If these three questions are put on a large chart, the exercise can move more smoothly:

INTRODUCTIONS

1. What brought you into prison work?
2. What is the greatest strength you bring to this work?
3. What is the greatest problem you find in prison work?

Groups have found this use of charts very effective in setting any kind of task. Using charts helps to keep the group focused, so that energy is spent on the task and not on remembering the details of it.

Maps can be very effectively used in nonformal education settings. A map of the village can be a practical instrument in a community development workshop. On it the leader can indicate problem areas, structural difficulties or physical gaps. For example, perhaps a certain group feels oppressed and uninvolved. The use of a map might show that they are those who live farthest from the well or from the main road. A map can be used to show how leadership is scattered or clustered in a village; it can indicate the lack of services to certain families as the group notes the distance from the hospital or clinic.

The use of a large map of their own village can be a great learning experience for villagers, inviting them to consider, perhaps for the first time, the physical distances that either separate or link them. Such maps are most effective if they are large and clearly drawn, uncluttered, with simple and clear symbols. Again, such a chart must be checked either with one of the participants or with one of their peers. What do they see in the map? Is it clear? What is ambiguous? What raises questions?

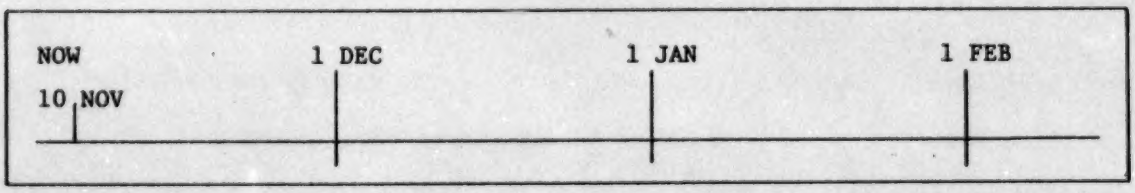
When designing a map of a locale, be very careful about proportions. Distances must, of course, be consistent. Sometimes only a single area of a

village or city need be shown. A smaller area, drawn with greater detail to show relationships and significant items meaningful to the group involved, can be more useful than a map of a larger area without the personal details. (Cf. following maps as examples.)

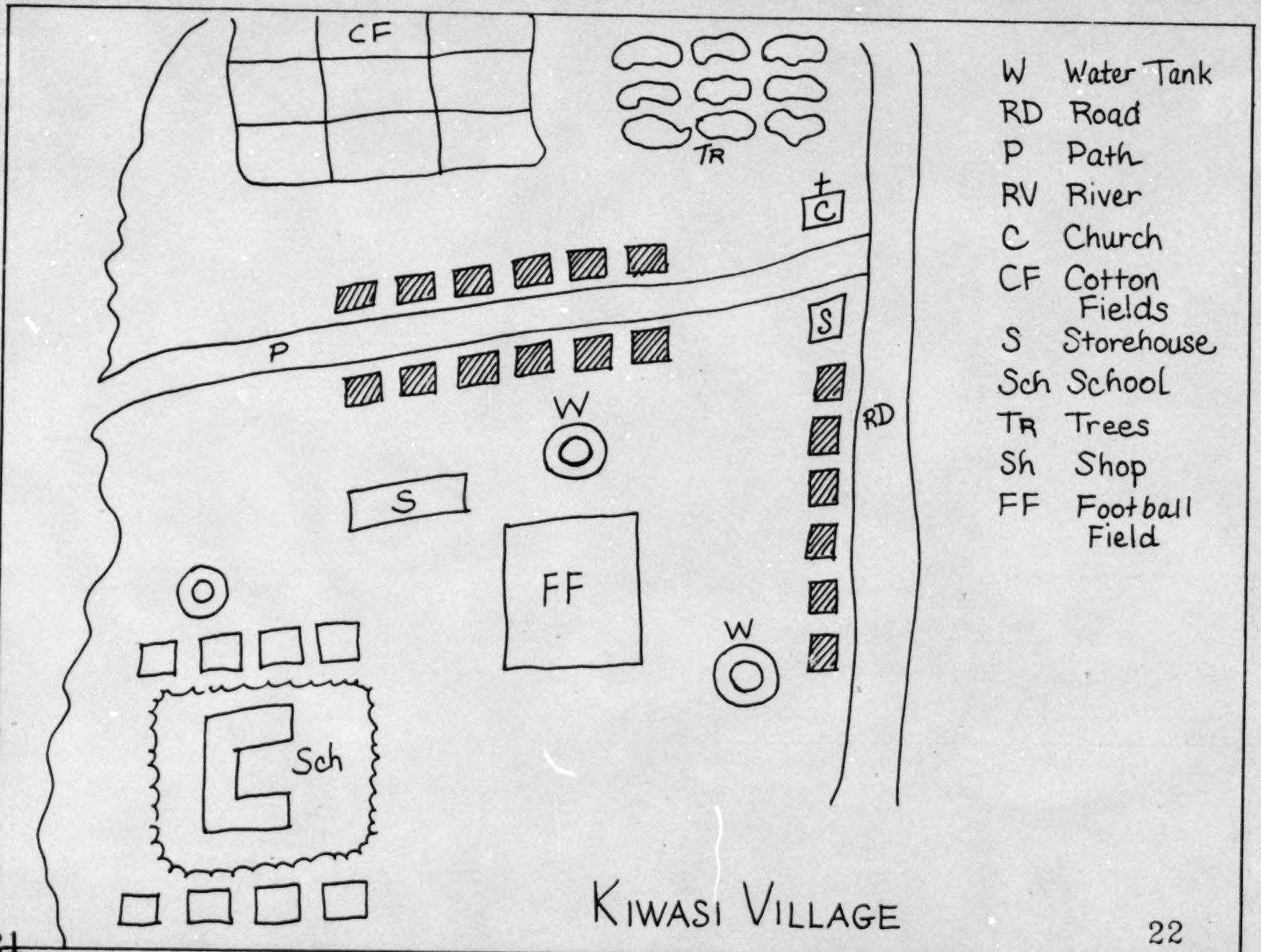
Sometimes a map can be used to provoke reflection: "What do you notice about this community from studying this map?" Such a question can be very provocative indeed, eliciting deeply felt emotions:

> "These people have all the services, while these (indicating distant houses) have a long walk to any services!"
>
> "The people in the large houses have the best access to transportation and shops!"
>
> "The church and the school are far from the people's homes."

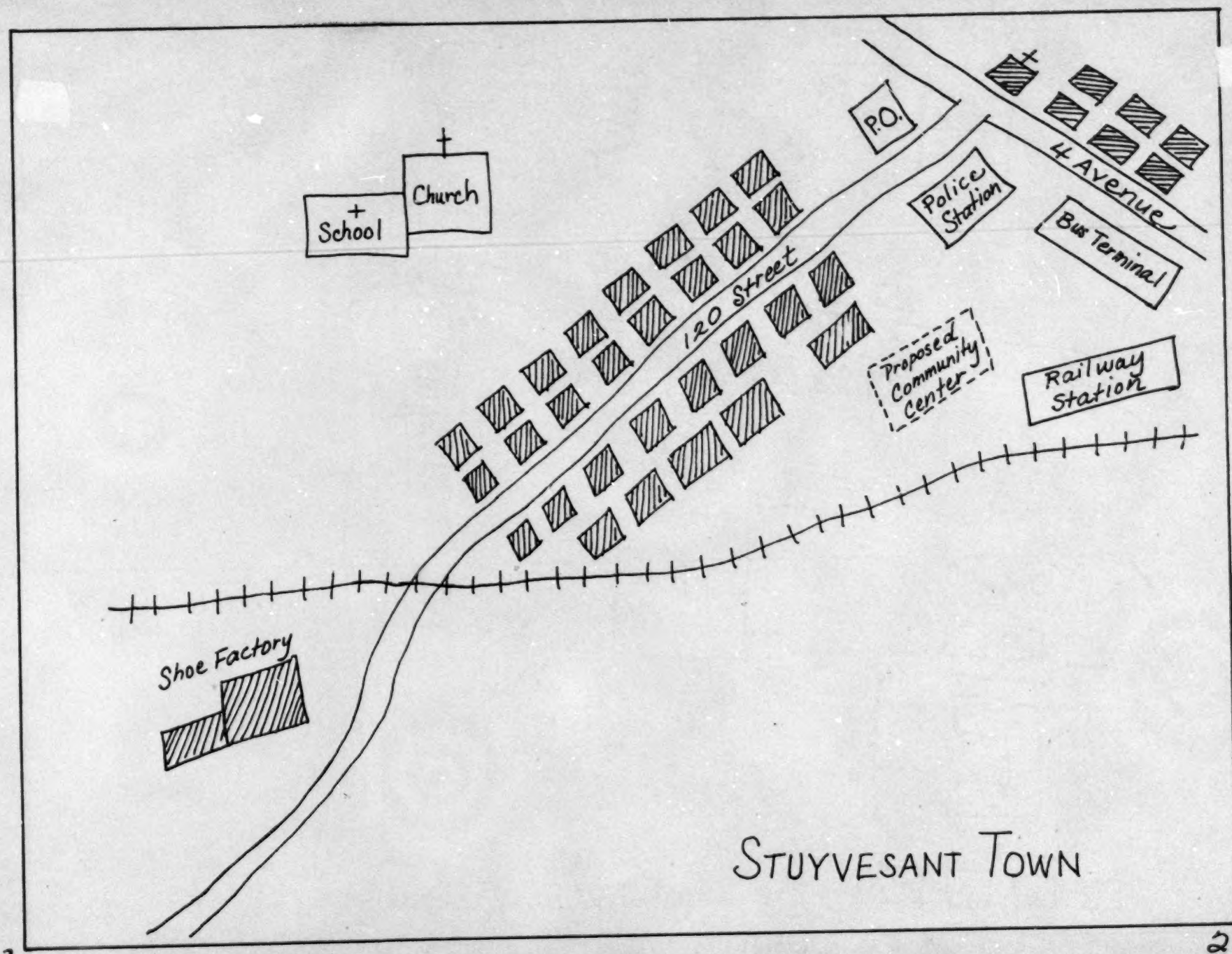
Time Lines can be very useful charts for planning, for analysis and evaluation of programs, and to enable a group to make decisions about goals. A time line must not be too long to be legible or imaginable; it must be proportionate and as realistic as the group can make it. That is, a time line should indicate possible goals. For example, if a group were beginning a project to build a small urban community center, the time line for them to fill in might look like this:

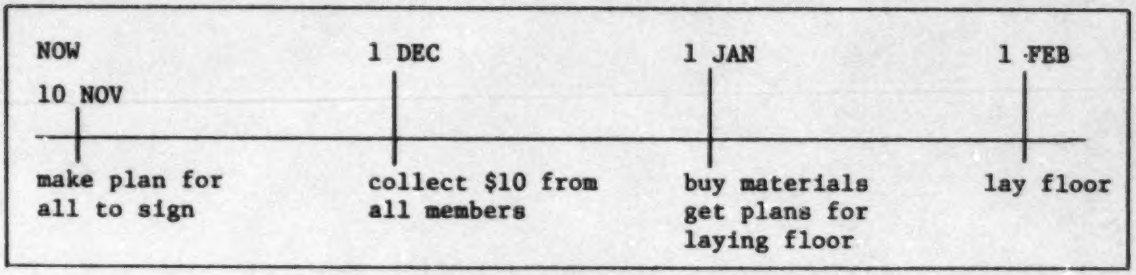


The group involved in the project would then be invited to establish short-term and long-term goals by placing them on the time line:

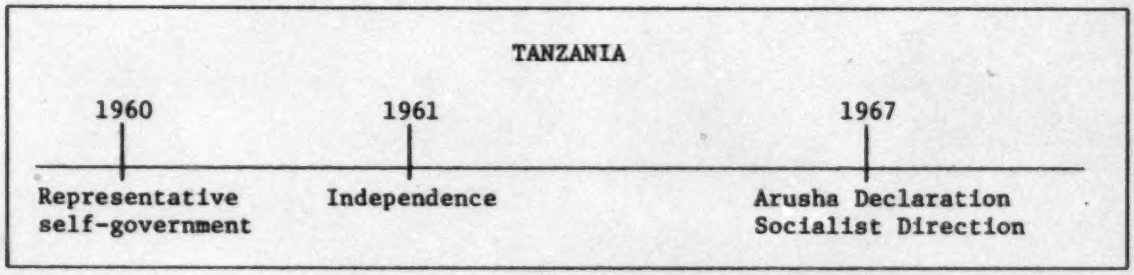


KIWASI VILLAGE

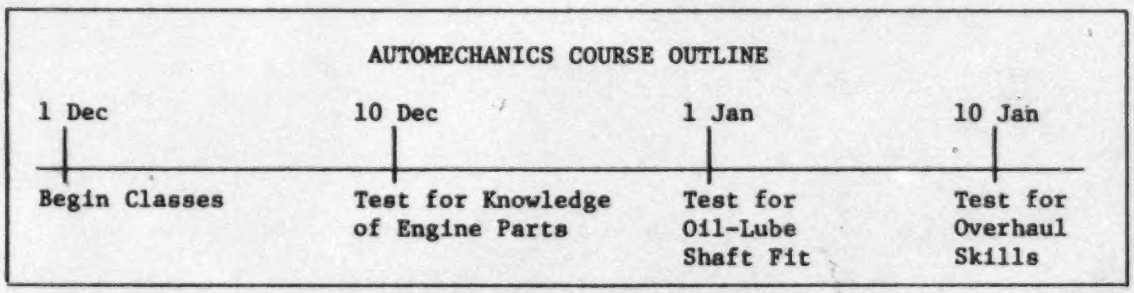

Church
School
P.O.
4 Avenue
Police Station
Bus Terminal
120 Street
Proposed Community Center
Railway Station
Shoe Factory
STUYVESANT TOWN



In dealing with issues in history or development, time lines are especially effective:



Time lines can also show the sequence of steps in a process, for example:



The advertising posters that are available around the world give facilitators excellent technical advice on making charts: note how large and clear printing appears. Script is rarely used because large printed letters are more legible. A wise facilitator, about to make teaching charts for the first time,

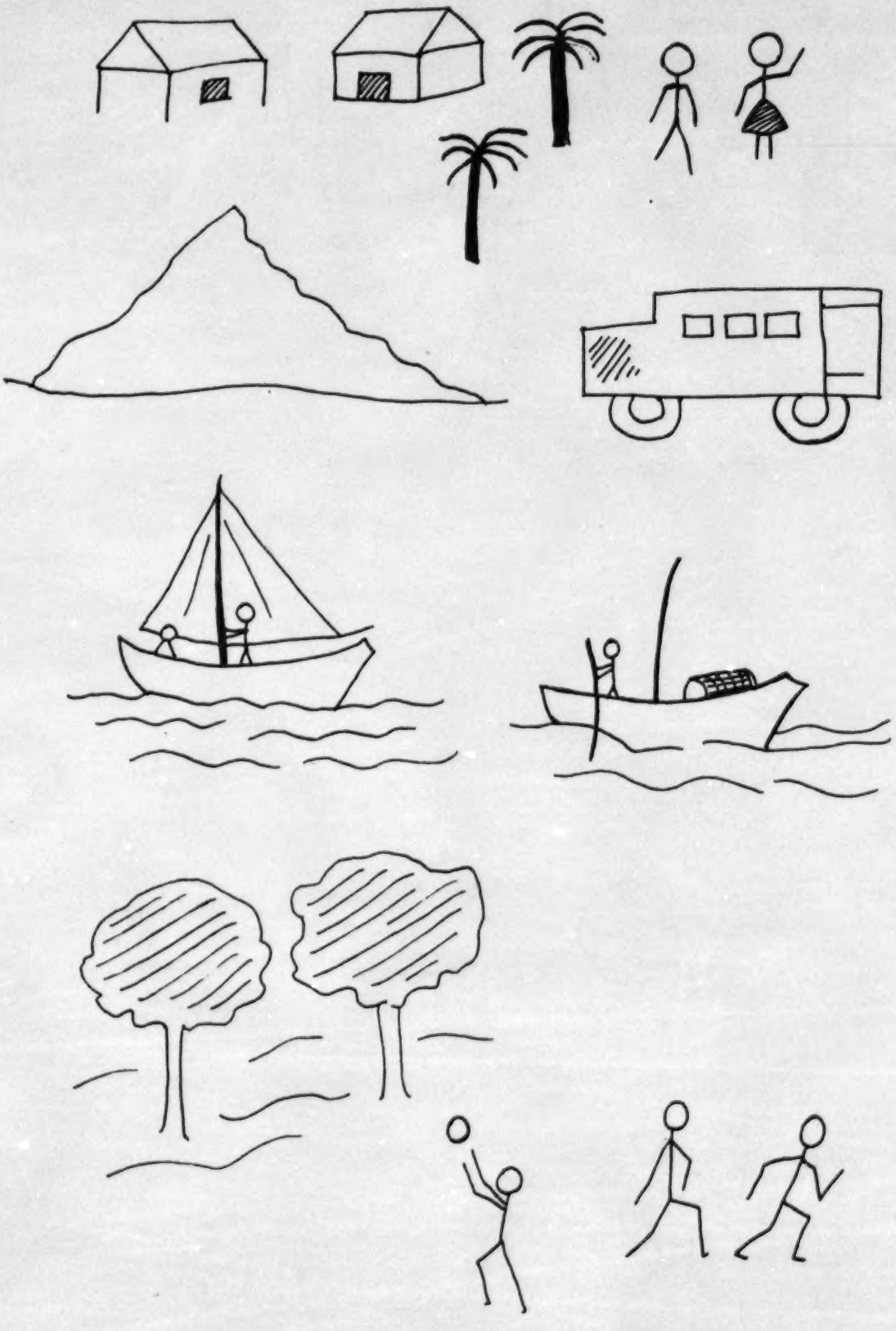
will take a lesson from the lay-out and design of the inevitable and ubiquitous advertising signs which show the use of bold, clear printing.

Pictures

Pictures are perhaps the richest of all visual aids. In nonformal education we can use drawings, collages of pictures cut from illustrated magazines, enlarged photographs or posters. Pictures can represent optimal situations, for example, a mother feeding her children a well-balanced meal; or actual situations, for example the meal time at a typical family home; or acute problem situations, for example, a badly undernourished child. Pictures can be used to demonstrate a process, to broaden people's awareness by showing things or people or places that they do not yet know, or to evoke analysis by showing problem situations.

PICTURES		
What They Can Be	What They Can Represent	What They Can Do
sketches drawings cut-outs photos posters	optimal situations actual situations problem situations	demonstrate broaden knowledge evoke analysis prompt comparison

Do not wait for the day when an artist joins your nonformal education team before you begin to use pictures! The examples that follow would be effective and useful in an adult learning situation, and anyone can draw them! These examples were drawn after reference to Horsburgh (1977) and are basic figures with which to begin.



When pictures are used for demonstration, they must be large, clear and focused on the item or issue to be demonstrated.

PARENTING

TODAY

Instead of using the picture as a "show and tell" device, invite participation by asking: What do you see here? The perceptions of each person will be different and unique as he or she projects a personal experience onto the pictures shown.

A functional approach to the use of pictures is to show starkly contrasting scenes for demonstration, such as, for example, a well-nourished child and a starving baby. The questions: "What do you see here?" "Why does it happen?" can lead to analysis in depth. The emotional weight of the pictures can evoke full participation. If possible, the facilitator can go on to ask: "Are there

poorly nourished babies in your village?" "What can we together do about this problem?"

Pictures can be used to broaden knowledge. In all of the content areas mentioned on page two, pictures can be useful to show what is new and unfamiliar. For example, in a village leadership seminar the facilitator can present three large line drawings:

1. A family sitting outside a temporary house, planning together to build a new house. The plans are in front of them.
2. The family building a new house using sun-dried bricks.
3. The family enjoying a meal in their new home.

Discussion questions might be planned to go along with the series of pictures:

What do you see happening in these pictures?
Who is responsible for such a change?
Is it an expensive business--building a new house?
Where did these people get the materials for their new home?
How do you think they feel in picture #3?

Such questions are designed to exploit the potential in the pictures, to set up connections between the case demonstrated and the lives of the participants or learners. As adult educators consider the use of pictures to broaden knowledge, the issues of respect and appropriateness immediately come up.

Pictures can be used also for evoking analysis of difficult or problematic situations. Freire (1974) speaks of such pictures as codes because they serve to cofify reality and invite the learners to decode the pictures by articulating the causes of the problems shown. Codes are then not used to demonstrate, but rather to present to the group the problems in their own lives. In this way, the group is prompted to analyze those problems, their causes and results, and to begin to think of ways of solving them.

For example, in an urban situation the community development leader might

come into a neighborhood and see that many of the young people are out of work. Perhaps the picture that the community development leader might suggest is that of a group of youths standing around the corner store with nothing to do. This would be one person's view of the problem, valid for him but perhaps not sufficient or appropriate. The optimal design for the code will be provided by the young people themselves; let them say what the critical and essential problem that they face is, and let them design a picture that will honestly depict that problem or issue.

The essential thing to remember about a picture used to evoke analysis is that it must show a problem facing the community, and only one problem at a time. The code does not include the solution to the problem. Freire speaks of "problem-posing" education, not problem-solving education. The solution to the problem lies in the hands and mines of those who in turn must implement the solution. The picture is in this case a mere catalyst of the analysis, which is done by the people whose lives are mirrored in the picture. Since they are the ones who will have to implement the solution, they must be the ones to name the solution.

In using a picture as a code, these five questions are often useful:

1. What do you see happening here?
2. Why does it happen?
3. Does this happen in your situation?
4. If it does, what problems does it cause?
5. What can we together do about it?

The response to three and four questions usually takes a good deal of

time. People want to discuss the picture in detail and to analyze it in depth. Why does such a thing happen? Here again people will project and various groups will have very different responses to both questions: the important thing is for all responses to be accepted as valid. It is important to make that clear before the small group discussion by saying

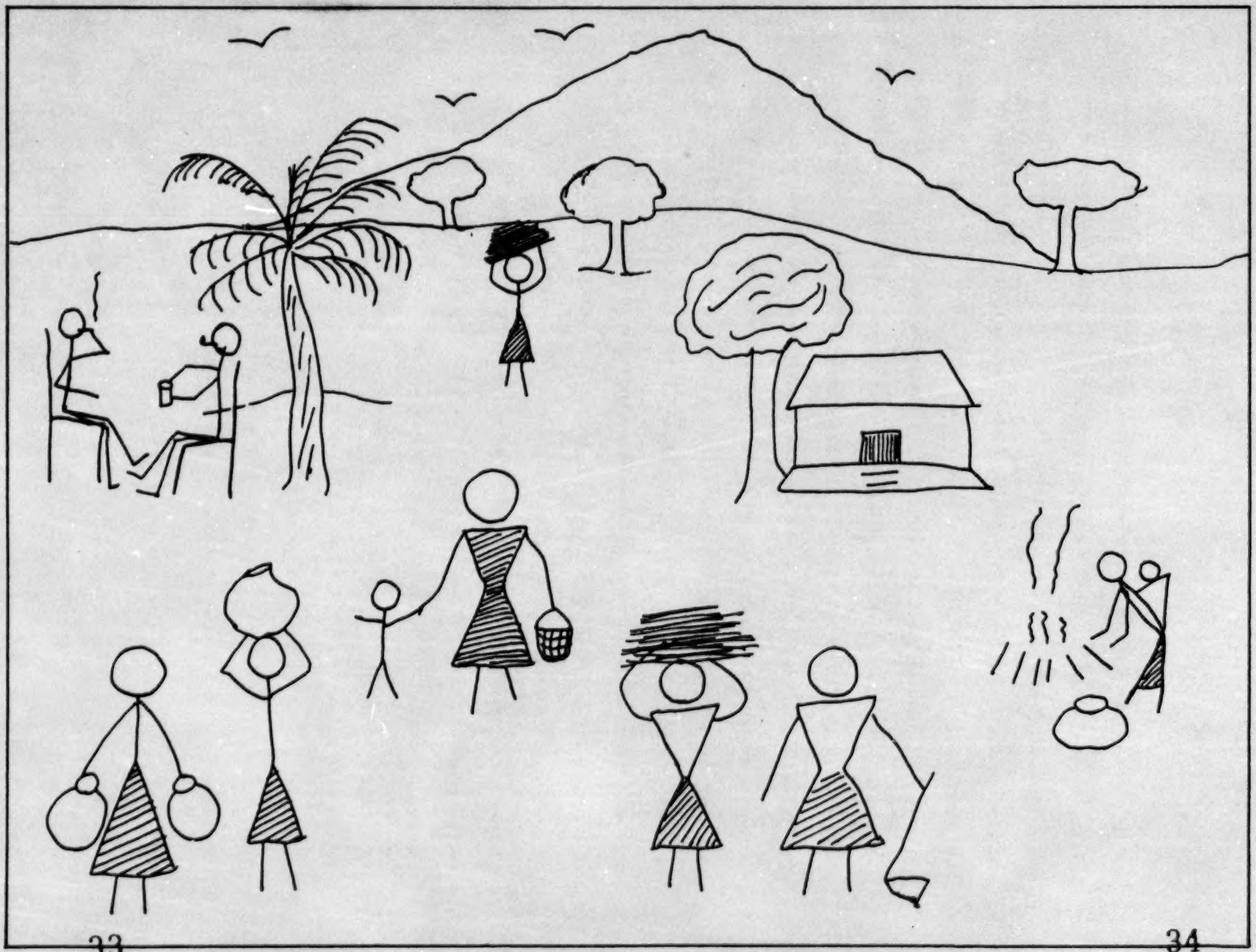
> "Each person here will have his or her own interpretation of this situation, and of the causes of it. Let us hear everyone with equal respect, and then later try to put together a united plan of action to address the problem."

There have been occasions when a particularly sensitive issue precluded the use of these questions: it would have been too difficult for the community to speak about the problem.

However, this is a very good opportunity for people to see clearly the oppressive actions or situations that harm them, and to articulate how other problems are related causally to the one mirrored by the code.

Question five, What can we together do about this? can move the group to action, or at least to an action plan. A response to this question is often best evoked in small homogeneous groups, with all the responses tabulated at the end of the small group discussion. People are excited and consoled to discover that others have come up with a decision for action very similar to theirs. After all the action plans are tabulated, the group can decide how they will go about the plan they choose.

On the following page is an example of the use of simple stick figures as a code. In the community where these drawings were used the division of labor was a major issue: the women did most of the work and carried the brunt of the community burden in many ways. In a leadership workshop the community leaders tried to design a code that would indeed show the situation. They suggested



that a village scene should show the men under a tree smoking their pipes and talking and the women carrying wood, fetching water, minding the children, going to the farm to cultivate and, of course, cooking. Chores done by women and that action of the men were symbols of the contradictions in the life of this community.

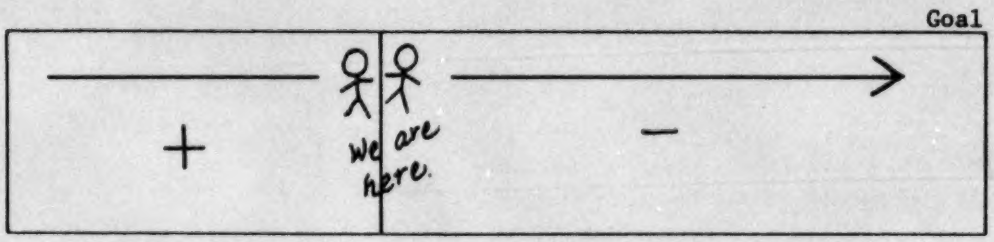
The code need not be a work of art. It shows one problem, very explicitly. The figures are not ambiguous but clear and large. The code does not offer a solution. It serves best if it indicates the problem or issue at hand.

If the participants or leaders who are their peers in a community can choose the problem and design the code, the learning will be optimal. People will take command of the learning situation as they repond to a mirrored image of their own lives, or of one aspect of their lives. The information they seek will be in terms of a real problem and cannot therefore be academic or irrelevant; and the plan of action will be theirs to design and to implement.

Pictures as inexpensive visuals have a vast potential to demonstrate, stimulate and provoke to analysis. The use of pictures is not restricted to professional artists, but is open to all educators who wish to improve their communication with learners in a nonformal education situation.

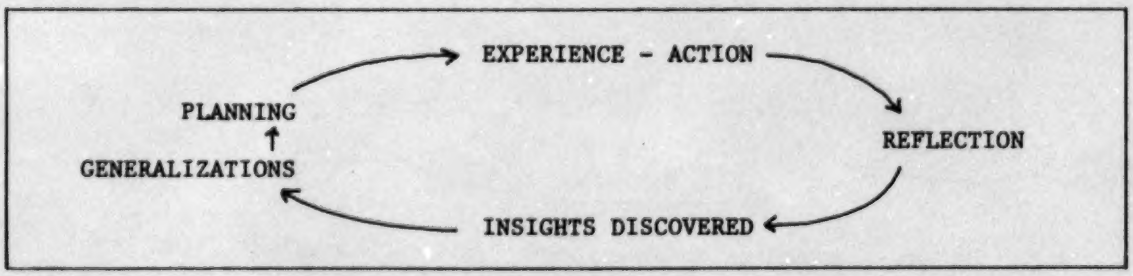
Models are graphic illustrations of particular concepts or principles. People find models useful as they try to grasp an abstract idea of see a principle through to its consequences. A model might be called a graphic abstraction! It can show a phenomenon at work in groups in a society; it can indicate the sequence of events or actions; it can show cause and effect.

Here are some examples:



This model, called force field analysis, is useful in showing a group their strengths and the impediments that prevent them from reaching a certain goal. A "brainstorming" session with the group, to fill in the forces that can move the group towards a goal and those that impede or hinder the achievement of the goal, completes the model. The hindering forces can then be ordered as to seriousness and transferred to a chart to serve as agenda for further sessions.

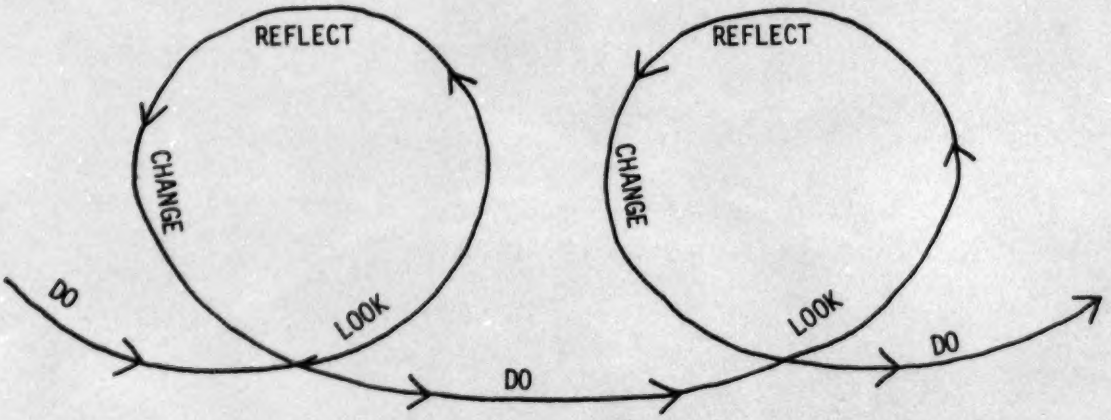
In a leadership training course with teachers of adults the following model is useful to show the learning process:



Such a model is very simple to draw. It cuts through the verbiage of a long lecture on the conceptualization of learning processes, enabling the adult educators to see the sequence at a glance. It serves as a focus while the teacher is explaining the process and also as a mnemonic device, enabling people to remember the major items in the lesson. Such a model can be

produced as a large chart, and then duplicated for individual handouts. This reinforcement presents an optimal situation: a visual aid for the lesson, and a page for the learner's "notes."

Another example of a concept that is clarified when modeled is the idea of praxis: action-reflection-action. This model is most provocative in leadership or development workshops as people ask: How can we change? How can we get input to mesh with our own unique position and aspirations? The model shows clearly that the "do" is different each time, having been affected by the input and the efforts at change.

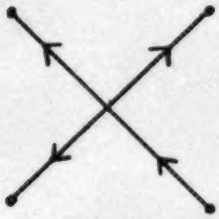


A model is a kind of metaphor or analogue, and all metaphors "limp" in some way or another. Models are not prescriptions. A model needs an explanation; it is an instrument at the service of learners/teachers; it is a visual aid. Again, the model should be validated by a participant or a peer of the students, not for meaning but for their prescription of the sequence or order indicated.

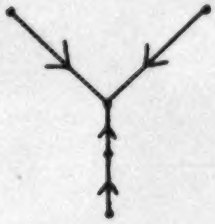
In a village or urban leadership group the following models of communication patterns can be very helpful:

COMMUNICATION PATTERNS

THE WHEEL

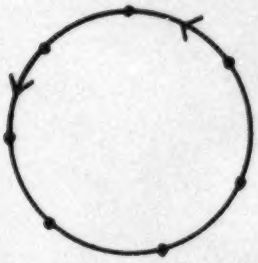


THE Y

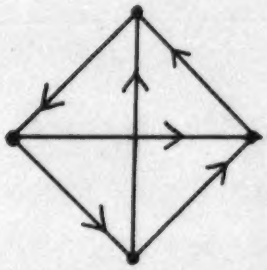


THE CHAIN

THE CIRCLE



ALL CHANNEL



From: Litterer, J., Finch, F. and Jones, H.,
Managing for Organizational Effectiveness
New York: McGraw Hill, 1976.

The models may be used merely for discussion: Which is the most effective mode of communication? Or the group may actually practice using one or the other style and see what happens. This is a great way to develop communications awareness.

A model is not always the easiest instrument to design or to use, but when people are struggling to comprehend an abstract idea, the relationship between forces, or a sequence of steps in a process, it may be just what learners and teachers need.

CHAPTER III

PRODUCING THESE PROTOTYPES

In this section we shall look at the steps by which each of the four prototypes can be designed and produced. Some of the elements of production are the same for each visual. The first step is always to consider the audience. Who will use the chart/picture/model? This step leads back to the principles of respect and immediacy and the relevance of the visual to the experience of the group. Is the group largely literate? Can they easily respond to symbols and graphic design? How many will be in the group using the visual?

Such general questions are essential preliminaries. Having answered them, one can begin to prepare for the production of each type of visual.

Charts

1. Clarify the purpose of the chart: is it to be used to show new material? to summarize? to demonstrate a sequence or a process?
2. Once this is established and the content has been chosen, make the chart in pencil. Study it either with one of the participants or with a person who is a peer of the participants. It is clear? How should it be changed? Is it large enough?
3. Incorporate their suggestions as you make the chart on newsprint or posterboard using pencil first, then felt pen for vivid colors.
4. After using the chart in a group, invite feedback on the chart itself: how can it be changed to maximize its effectiveness?

As an example of these steps, let us consider a hypothetical scenario and see what it implies in the making of a useful chart as a visual aid. You are

planning a learning event in a rural center where a group of young men and women have formed a youth club. They ask you to come and show them how to start a pig-raising project. You are an agricultural officer and want to show the sequence of steps involved in an efficient pig-raising project.

1. Consider the audience: thirty young people, all literate, finished primary school, farmers' sons and daughters.

2. Clarify the purpose of the visual: teaching and sequencing.

3. Make the chart in pencil, showing the four major steps in raising pigs: check this with one of the youths for clarity. Is it new information for them? How can it be improved? Is the sequence evident?

4. Make the large chart: make small ones for them to take home (these can be duplicated on a mimeograph or gelatin pad).

As this shows, the use and production of such visuals takes time and effort. You can teach without them: many teachers do. However, the quality of the learning event will be greatly enhanced by the use of such visual material in the session and as a handout to be brought home for later reference.

Pictures

After the initial broad consideration of the group to use the picture these steps are necessary:

1. What is the purpose of this picture: demonstration? broadening knowledge and awareness? evoking analysis? If it is the latter who has named the problem for the "code?"

2. Illustrate the content in large and bold strokes. Select magazine pictures that are large and clear if it is a collage. When preparing a "code," ascertain that only one problem is being shown and that it is clear enough to avoid ambiguity.

3. Check the picture with a typical participant. What do you see? What is not yet clear? How can we change it? What would you include that has been omitted?

Here is a scenario where a picture can be useful. You are working with a

group of young men and women who are all recently married. They want to work as a community but there is an obvious difficulty: the young men refuse to permit the women to have a serious part in decision making in the group. This sexism is not noticed by the men: however, it is deeply felt by the women. The latter are not yet able to articulate the difficulty they feel. You want to provoke them to speak about this problem with their husbands and to deal with it overtly. They are all literate, and are familiar with the use of pictures.

1. The audience is ready to use a code. There are only twenty of them and the problem is a single one.

2. The purpose of the picture is to demonstrate the separation of men and women in a community council. Just show the separation, nothing more.

3. Check the picture with a typical participant or a peer of the young men and women: What do you see? Incorporate their suggestions for revision into the picture. Use the picture with the group analyzing the situation by means of the five questions. (See above, p. 25.)

Models

The steps in designing a model for use in nonformal education are not significantly different from those used for charts and pictures.

1. Clarify for yourself the concept to be taught or shown by the model.

2. Abstract the essential problem.

3. Depict the elements in the problem in relation to one another; in sequence if appropriate, in tension as that is appropriate. Check the model with participants: What do you see? What is the sequence or the tension? Is it evident?

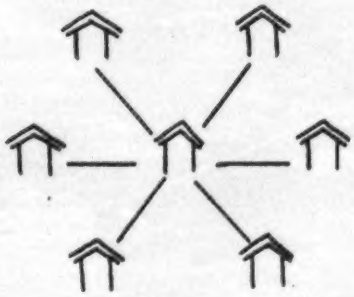
Sometimes a small detail in a model may be misleading and may obscure the whole purpose of the model. This is why it is essential to have feedback on the model in preparation.

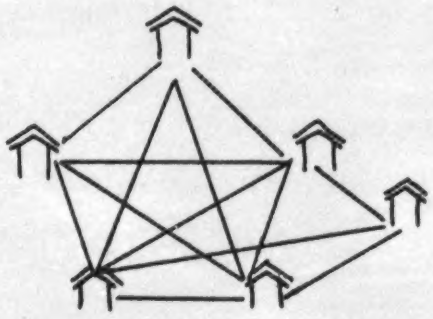
Here is an example of a scenario where one could use a model. There is a leadership training course going on in a rural village. The leadership patterns until now have been extremely centralized. The community development officer is trying to show alternative patterns and their advantage. The local chief is a member of the course and he gives verbal allegiance to the national plan for decentralization. However, his home has been the center for decision making in the village, and for the dissemination of information.

1. After considering the group very carefully, clarify the concept to be shown: decentralization--a pattern of information flow and energy flow that is all-channel rather than like a wheel.

2. Abstract the essential problem: contrast the two patterns to indicate advantages and disadvantages of each. The group will then choose the best and most appropriate one for them when they have understood the differences and all that they imply.

3. Depict the elements in the problem: use houses or dots to show the links. Do not place one pattern above the other, as that can be interpreted to indicate preference.





4. Test these two models with typical participants before using them with the group. What do you see? What do you understand by the models?

In producing and using all of these visual aids the consistent imperative

is concern for the group: what is appropriate for them? Adult educators can never err on the side of too much respect for the culture, the symbols, the tone of the group. Such respect can only lead to more real and more adequate education for all: teachers and learners alike.

CHAPTER IV

INEXPENSIVE MATERIALS AND THEIR USE

Newsprint is the most useful material for wall charts, pictures and models. It is not necessary to purchase expensive pads of this material. Wherever a newspaper is published and printed you can get "cut-offs" either without charge or for a minimal fee. A cut-off is a piece of a roll of newsprint that is too small to fit on the machine; the printers literally cut it off and these small rolls, usually four feet long, with hundreds of yards of newsprint, are re-cycled, sold or given away. Some publishing houses sell newspring cut-offs by the pound or the kilo!

Masking Tape, a heavy paper tape, is most efficient for taping posters or visual material to the walls. This tape, unlike transparent or "scotch" tape, does not take the paint off the walls when it is removed. Even using making tape, one must be very gentle in removing visuals that have been taped on the wall: a ripping motion can remove the paint and leave a scarred room!

Felt Pens are very valuable in the production of inexpensive visuals because the colors are bright and clear and do not usually fade. Certain brands of these pens are re-fillable. This is a great saving. Purchase pens that have screw-on refillable sections, and bottles of filler ink. Black, red, blue, green, purple and brown pens are most serviceable: orange, yellow or pink are simply too faint for long-range visibility.

If you are transporting charts or pictures it is advisable to make a roll of newspapers, and then roll the newsprint posters around the roll. This keeps

the newsprint smooth and clean.

Cut newsprint off the cut-off roll into three fot or one meter lengths before the program if you are going to use it to make charts during the sessions. Number all materials that you use in a workshop: charts, pictures, posters, and so forth. This provides a very valuable resource for the recorder of the workshop who can follow the numeric sequence in making notes of the sessions. A useful tactic in group work is to color code the productions of each group, especially where the same groups will work together during a workshop.

If you are using non-refillable pens, discard those that are drying out at once. This seems trite, but the delay and frustration involved when a facilitator takes up pen after pen and not one of them works, is not trite at all. Check each of the pens you are going to work with to avoid this frustration.

The value of "dittoes" or mimeographed sheets reproducing charts, models or pictures that have been found effective in the sessions has already been mentioned. Distributed as handouts after the workshop session, these sheets help participants to recall and to internalize the new material. In addition to corroborating the learning experience, such handouts invite participants to share the event with friends and family at home.

Wherever possible, the workshop or seminar should be recorded and the notes made available to the group. These notes should include the names, addresses and telephone numbers (if applicable) of all the participants and staff. A collection of such records, including the visuals used, is a reliable witness of the efforts of a nonformal education project or program. In the inevitable search for funding such a document is valuable evidence of a well-organized team doing an effective task.

POSTSCRIPT

If these suggestions have been of use to you, and you have been able to design, produce and use visual aids in a nonformal education setting because of them, please do let us at the Center for International Education know how you have used them. Your suggestions and discoveries about the world of inexpensive visuals will be gratefully received and incorporated into later field guides. In a field as new and challenging as nonformal education, such collaboration is vitally necessary.

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